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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,731	03/22/2004	Eric B. Watson	MSFT121738	9571
26389 7590 05/21/2007 CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347			EXAMINER STACE, BRENT S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/805,731	Applicant(s) WATSON ET AL.	
	Examiner Brent S. Stace	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-66 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. This communication is responsive to the amendment dated March 20th 2007. In the amendment dated March 20th 2007, Claims 1-66 are pending, Claims 1, 4, 5, 23, 26, 27, 44, 45, 48, 49 are amended, and Claims 1, 23, and 45 are independent Claims. The examiner notes that no new matter was introduced. This action is made FINAL.

Response to Arguments

2. Applicant's arguments filed March 20th 2007 with respect to Claims 1-66 have been fully considered but they are not persuasive.

3. With respect to the applicant's argument with respect to exemplary Claim 1 (including Claims 23 and 45) that the prior art(s) allegedly does not teach "diagnosing at least one possible cause for an underperforming search result that is based on a comparison between normalized performance data to an expected performance data," the examiner respectfully disagrees. In the cited sections in the rejections below, both Fish (paragraphs [0077]-[0078]) and Szabo (cols. 24-25, lines 58-13) demonstrate the problems associated with returning too many (or too few) results to a user. Fisher, in the cited sections, teaches that at least one possible cause for the number of search results returned is because a query was not structured/submitted with high accuracy to return the desired results (relating to search terms being too many, too few, or too general). Szabo teaches that the query can also be the possible cause for the number

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of search results returned (relating to text proximity searching and changing the proximities based on results returned). (As such, both references can map to the "diagnosing" part of the claim, however, the examiner thought Fish taught that limitation more clearer than Szabo, and used it in the rejections below). The under performing search result of the claim is the fact that in Fish and Szabo too many results can be returned. Since both Fish and Szabo do not want to present too many results to the user, the search results are seen as under performing. As for the under performing search result being based on a comparison between normalized performance data to an expected performance data, Szabo is seen as teaching this the best. In the cited sections of Szabo (cols. 24-25, lines 58-13), Szabo teaches that a user can select, for example, to return 100 best results from a search. However, if the search results are below 100, the search strategy may be changed (more/less restrictive) to obtain, for example, more results satisfying 100 best results. The applicant's specification is very clear on what expected performance data is on page 3, lines 16-17 stating that "...the expected performance data may be one of more value(s) that represents the expected performance of a result such as..." As the prior art(s) are applied to the claims, the user desiring 100 best results is the expected performance data (since they are expecting 100 results). When the number of returned results is less than 100 (comparison happens here) (the results are normalized since the results all fit the "best" ranking), the normalized possible results must be less restrictive in order to satisfy the 100 number of best results. The example above is for the situation where too few results are returned and the requirements to become a best result are relaxed in order to achieve the

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desired query parameters, however, Szabo also teaches the opposite situation. In at least Szabo, search results of too few or too many is undesired, and therefore, they are considered underperforming search results. (See rejections below). The claims in no way restrict underperforming search results to the interpretation given above nor to the claims restrict any "possible cause" for the underperforming search results. As such, the prior art(s) teach the limitations of the claim as claimed.

Applicant on page 29 of the remarks dated 3/20/07 state that "performance data describes how relevant users find search results provided by a search engine." However, the examiner could not find where this was stated in the specification. Additionally, the claimed subject matter is directed toward "expected performance data" not just "performance data." As stated above, "expected performance data" has a clear definition in the specification that is inline with how the examiner mapped the prior arts to the claims.

Applicant is correct in stating that "Fish does not compare normalized performance data to expected performance data," however, the other prior art(s), specifically Szabo, teaches this limitation as shown below and explained in more detail above.

4. With respect to the applicant's argument with respect to exemplary Claim 1 (including Claims 23 and 45) that the prior art(s) allegedly does not teach "adjusting an operation of the search engine that produced the results in accordance with the diagnosis to improve the search result performance," the examiner respectfully disagrees. As shown below, Szabo (cols. 24-25, lines 58-13) teaches this limitation in

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that the search strategy may be changed based on the number of reported hits (more/less restrictive). The prior art(s) teach the limitations of the claim as claimed.

5. With respect to the applicant's argument with respect to exemplary Claim 1 (including Claims 23 and 45) that the prior art(s) allegedly does not teach "wherein the adjustment is operative to give greater significance to performance data from at least one of the sources," the examiner respectfully disagrees. As shown below, Fish paragraph [0081] teaches this limitation in that multiple sources can be used to make relevant the results of a query. Adding on multiple sources where one source requires, for example, 4 stars, favors one source over the others (since the other source(s) may have different star ratings, or scale of star ratings). Additionally, the results of the source of 4 star ratings, provides a filter or even a base result set of the search. The prior art(s) teach the limitations of the claim as claimed.

6. Applicant is correct in stating that "Szabo...does not use different sources of performance data to adjust the operation of the search engine," however, the other prior art(s), specifically Fish, teaches this limitation as shown below.

7. With respect to the applicant's argument with respect to exemplary Claim 3 (including Claim 47) that the prior art(s) allegedly does not teach "wherein normalizing the collected data in accordance with a relative importance of the source of the data includes giving greater weight to the data from the more important sources and combining the data to reflect the relative importance of the source from which the data originated," the examiner respectfully disagrees. The rejection for these claims has been clarified below. The idea of weighting data more than other data is combined with

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Fish's idea of setting one source to be more significant than the other in returning results (more restrictive for instance). Aggarwal is used in the rejection since normalization is mentioned and occurs. As such, the user is able to defined weights for the sources in Fish (preferring ratings for one source over another, for example) to obtain search results more closely matching the user query.

8. With respect to the applicant's argument with respect to Claim 59 that the prior art(s) allegedly does not teach "wherein the instruction to diagnose at least one possible reason why the search result performance compares unfavorably to the expected performance includes an instruction to determine at least one of whether the search result is no longer valid, whether the search result appears in a poor location, whether a search term that generated the search result is easily misspelled, whether the search term is too broad to generate a meaningful result, and whether a search for the search term should be constrained to a specific resource," the examiner respectfully disagrees. The claim was mapped to the limitation of "whether the search term is too broad to generate a meaningful result" since Fish, at the cited sections shows that if terms are too broad/too few, then too many results will be returned – thus not obtaining a meaningful result.

9. With respect to the applicant's argument with respect to Claim 61 (and Claim 39) that the prior art(s) allegedly does not teach "...to augment a presentation of the search result for a search term, wherein to augment the presentation includes at least one of to highlight, animate, enlarge, and reposition a display of the search result on a search result Web page," the examiner respectfully disagrees. As shown with respect to Claim

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39, Reisman, paragraph [0038] teaches this limitation in that Reisman shows search results that have accorded greater weight in a "more prominent position." As such, search results are moved to a more prominent position (or augmented by repositioning in a display) when they are accorded greater weight.

10. With respect to the applicant's argument with respect to Claim 40 that the prior art(s) allegedly does not teach "wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data that represents an action to increase the search engine's spellchecker tolerance," the examiner respectfully disagrees. The applicants contend that Szabo teaches "that spelling variations...generate a broader set of search results." This is true. Additionally, the applicants contend that Claim 40 is a spell checker tolerance is modified to produce more relevant results and that spelling variations are not generated, but instead the spell checker changes the spelling of a search term. First, changing the spelling of a search term is creating a spelling variation. Second, the claim does not limit the spell checker to specifically not generating spelling variations. Finally, Szabo creating spelling variations does obtain more search results. Those search results would then be analyzed/ranked according to the query. Therefore, creating more search results would obtain more relevant search results (for instance a document using the search term "colour" instead of "color"). A situation where this would occur is if an original query stated "colour" and returned no results from that query since that is the non-American way of spelling color (for example). However, Szabo identifies this search term and, essentially, queries again

using "color" in place of "colour" (using spelling variation). Where results are returned using "color" Szabo has produced more relevant search results. Additionally, changing "colour" to "color" can be viewed as checking the spelling of a search term based on what language(s)/nation(s) the search system is designed to support.

11. With respect to the applicant's argument with respect to Claim 42 that the prior art(s) allegedly does not teach "wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data that represents an action to temporarily adjust the operation of the search engine, and to further determine whether the temporary adjustment has actually improved the search result performance before generating an action to permanently adjust the operation of the search engine," the examiner respectfully disagrees. Szabo, cols. 24-25, lines 58-13 was cited in teaching this limitation since a search strategy is modified to satisfy, for instance, 100 best results. It automatically (using artificial intelligence) adjusts the search strategy temporarily until it finds adequate results. Then it uses this strategy as a permanent search strategy answer the query to obtain correct corresponding search results. As such, Szabo teaches an automated way to test the performance of changes to a search engine before committing those changes.

12. With respect to the applicant's argument with respect to Claim 2 that the prior art(s) allegedly does not teach "wherein the at least one of the plurality of sources of performance data includes one of an implicit performance data, an explicit performance data, a human-judged performance data, a relevance verification data, and a sample

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test data" because allegedly "human-judged performance data that describes whether certain criteria are satisfied in a search result is different than merely prompting a user or input regarding whether results of a search are relevant," the examiner respectfully disagrees.. Reisman, paragraph [0043] was cited as mapping to this specifically argued limitation. First, as shown above Applicant is attempting to further define "performance data" on page 29 of the remarks dated 3/20/07 by stating, "performance data describes how relevant users find search results provided by a search engine." In order to identify if user find search results relevant, at least data based on the users must be collected. Reisman does this by asking/prompting the user if the results were relevant. If the users/humans tell Reisman's system that the results are relevant, then humans/users judged of if results were relevant (corresponding to applicant's alleged definition of "performance data"). Finally, taking applicant's arguments alone (not using applicant's alleged definition of "performance data"), asking a user if the search results are relevant does describe whether certain criteria are satisfied in the search results in that the query (and it's criteria) was answered correctly by the search system.

13. With respect to the applicant's argument with respect to Claim 8 that the prior art(s) allegedly does not teach "wherein implicit performance data further identifies an operation that the user performed on the result, including at least one of editing, e-mailing, printing, bookmarking, and copying," the examiner respectfully disagrees. Reisman, paragraph [0128] was shown as teaching this limitation, specifically the "editing" part of the limitation since "at least one of" is at least all that is required to meet the claimed limitations. Reisman in paragraph [0128] teaches that translation editors

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and readers can review results and add corrections and adjustments and their feedback is tracked. Editor's do a task of editing. Additionally, this is shown in Reisman where he states that corrections are done. Making corrections is a form of editing. Since corrections/editing is tracked, this is a valid form of implicit performance data as defined by the claim(s).

14. Any other claims argued merely because of a dependency on a previously argued claim(s) in the arguments presented to the examiner, March 20th 2007, are moot in view of the examiner's interpretation of the claims and art and are still considered rejected based on their respective rejections from at least a prior Office action (part(s) of recited below).

Response to Amendment

Drawings

15. In light of the applicant's respective arguments or respective amendments, the previous drawing objections to the drawings have been withdrawn.

Claim Objections

16. Claims 44 and 59 are objected to because of the following informalities:

- a. Claim 44 recited "herein" on line 1. No amendment to the claim justifies the correct way to change the word "wherein" (in the previous version of the claims) to "herein." This appears to be a typographical error.

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- b. Claim 59 still uses the word "unfavorably" in line 2, which was amended out of the independent claims. This appears to be an oversight of the Applicants. Appropriate correction is required.

Claim Rejections - 35 USC § 101

17. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

18. Claims 23-44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

19. Claims 23-44 lack a useful, concrete, and tangible result because the system appears to be directed at software per se which is functional descriptive material per se that is non-statutory subject matter. Claims 23-44 still appear to be nothing more than software. Adding a limitation with hardware (e.g. processor, monitor) may overcome this rejection. Having a claim that is merely software is considered an abstract idea.

20. To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 112

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21. In light of the applicant's respective arguments or respective amendments, the previous 35 USC § 112 rejections to the claims have been withdrawn, however new rejections are warranted by the amendments to the claims

22. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

23. Claims 1-22 and 45-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

24. Claims 1 and 45 both recite the phrase "greater significance" in the last line of the claims. This phrase renders the scope of the claims unascertainable. This rejection propagates downward through dependent Claims 2-22 and 26-66.

25. Claims 1 and 45 both recite the phrase "to performance data" in the last line of the claims. The claim is indefinite because it is unclear if this is referring to expected, collected or source performance data.

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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27. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

28. Claims 1, 3, 23, 25-27, 38, 40, 42-45, 47, 48, 59, 60, 62, and 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2005/0080771 (Fish) in view of U.S. Patent No. 6,360,227 (Aggarwal et al.), further in view of U.S. Patent No. 6,326,962 (Szabo).

For **Claim 1**, Fish teaches: "A method for automating the optimization of search results [Fish, paragraphs [0047] and [0074]] displayed in a search Web page, [Fish, paragraphs [0077] and [0129]] the method comprising:

- collecting data that represents a performance of a search result, the data originating from at least one of a plurality of sources of performance data; [Fish, paragraph [0047]]...
- diagnosing at least one possible cause for an under performing search result [Fish, paragraphs [0077]-[0078]]

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- ...the adjustment operative to give greater significance to performance data from at least one of the sources" [Fish paragraph [0081]].

Fish discloses the above limitations but does not expressly teach:

- "...normalizing the collected data in accordance with a relative importance of the source of the data;
- comparing the normalized performance data to an expected performance data for the search result;
- ...from the results of the comparison between the normalized performance data and the expected performance data"
- ...adjusting an operation of a search engine that produced the search result in accordance with the diagnosis to improve the search result performance."

With respect to Claim 1, an analogous art, Aggarwal, teaches:

- "...normalizing the collected data in accordance with a relative importance of the source of the data" [Aggarwal, col. 5, lines 14-24 with Fish paragraph [0081]].

With respect to Claim 1, an analogous art, Szabo, teaches:

- "...comparing the normalized performance data to an expected performance data for the search result; [Szabo, cols. 24-25, lines 58-13]
- ...from the results of the comparison between the normalized performance data and the expected performance data" [Szabo, cols. 24-25, lines 58-13 with Fish, paragraphs [0077]-[0078]].

- ...adjusting an operation of a search engine that produced the search result in accordance with the diagnosis to improve the search result performance” [Szabo, cols. 24-25, lines 58-13].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Aggarwal, Szabo, and Fish before him/her to combine Aggarwal and Szabo with Fish because the inventions are directed towards searching for data using databases.

Aggarwal and Szabo's inventions would have been expected to successfully work well with Fish's invention because the inventions use computers attached to a network for searching a database. Fish discloses a search enhancement system with information from a selected source comprising searching for data and correlating it with external source(s) to improve search results. However, Fish does not expressly disclose normalizing data from external sources, comparing the search results with expected results, or (explicitly) adjusting the operation of the search engine to improve search results. Aggarwal discloses a system and method for generating taxonomies with applications for content-based recommendations comprising, essentially, unlimited normalizing functions, based on weights. Szabo discloses a graphic user interface for database system comprising comparing performance data of a search result and adjusting an operation of the search engine to improve search results.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Aggarwal, Szabo, and Fish before him/her to take the normalizing from Aggarwal and the comparing the search results and the adjusting of

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the search engine from Szabo and install them into the invention of Fish, thereby offering the obvious advantage of obtaining high quality search results based from the user query.

Claim 3 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows:

"The method of claim 1, wherein normalizing the collected data in accordance with a relative importance of the source of the data includes giving greater weight to the data from the more important sources and combining the data to reflect the relative importance of the source from which the data originated" [Aggarwal, col. 5, lines 14-24 with Fish paragraph [0081]].

Claims 23 and 25's limitation(s) have already been met by Claims 1 and 3's limitation(s), respectfully in addition to a system and some elements for performing the method steps of Claim 1 and 3. Therefore, Claims 23 and 25 are rejected for the same reason(s) as stated above with respect to Claims 1 and 3, respectfully.

Claim 26 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The system of claim 25, wherein the diagnostic process compares the performance of the search result as represented by the normalized collected performance data to an expected performance of the search result; and further, wherein the comparison is unfavorable when the performance is lower than a quantified threshold value below the expected performance" [Szabo, cols. 24-25, lines 58-13].

Claim 27 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The system of claim 25, wherein the most important source of data is implicit performance data, and normalizing the collected data includes giving implicit

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performance data greater weight when combining the data" [Aggarwal, col. 5, lines 14-24 with Fish, paragraph [0081]].

Claim 38 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The system of claim 23, wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data that represents an action to modify the search engine's search schema, wherein the modified search schema changes the way the search engine generates a search result for a search term, including at least one of reranking, removing, and replacing the search result" [Szabo, cols. 24-25, lines 58-13].

Claim 40 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The system of claim 23, wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data that represents an action to increase the search engine's spellchecker tolerance" [Szabo, col. 21, lines 25-40, specifically lines 36-40 with Szabo, cols. 24-25, lines 58-13].

Claim 42 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The system of claim 23, wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data that represents an action to temporarily adjust the operation of the search engine, and to further determine whether the temporary adjustment has actually improved the search result performance before generating an

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action to permanently adjust the operation of the search engine" [Szabo, cols. 24-25, lines 58-13].

Claim 43 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The system of claim 23, wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data that represents an action to adjust the operation of the search engine in real time" [Szabo, col. 26, lines 27-36].

Claim 44 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The system of claim 43, wherein the action to adjust the operation of the search engine in real time includes an action to intercept the search result generated by the search engine and to further modify the search result before the search engine displays the search result to the user" [Szabo, col. 26, lines 27-36].

Claims 45, 47, and 48's limitation(s) are met by Claims 1, 3 and 4's limitation(s), respectfully. Therefore, Claims 45, 47, and 48 are rejected for the same reason(s) as stated with respect to Claims 1, 3 and 4, respectfully.

Claim 59 can be mapped to Fish (as modified by Aggarwal and Szabo) as follows: "The computer-accessible media of claim 45, wherein the instruction to diagnose at least one possible reason why the search result performance compares unfavorably to the expected performance includes an instruction to determine at least one of whether the search result is no longer valid, whether the search result appears in a poor location, whether a search term that generated the search result is easily misspelled, whether the search term is too broad to generate a meaningful result, and

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whether a search for the search term should be constrained to a specific resource”

[Fish, paragraphs [0077]-[0078] with Szabo, cols. 24-25, lines 58-13].

Claims 60, 62, and 64-66's limitation(s) are met by Claims 16, 18, and 20-22's limitation(s), respectfully. Therefore, Claims 60, 62, and 64-66 are rejected for the same reason(s) as stated with respect to Claims 16, 18, and 20-22, respectfully.

29. Claims 2, 4-22, 28-37, 39, 41, 46, 49-58, 61, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2005/0080771 (Fish) in view of U.S. Patent No. 6,360,227 (Aggarwal et al.), in view of U.S. Patent No. 6,326,962 (Szabo), further in view of U.S. Patent No. 2003/0172075 (Reisman).

For **Claim 2**, Fish (as modified by Aggarwal and Szabo) teaches: “The method of claim 1, wherein the at least one of the plurality of sources of performance data includes one of a relevance verification data, [Szabo, col. 25, lines 14-36] and a sample test data” [Fish, paragraph [0052]].

Fish discloses the above limitations but does not expressly teach: “an implicit performance data, an explicit performance data, a human-judged performance data.”

With respect to Claim 2, an analogous art, Reisman, teaches: “an implicit performance data, [Reisman, paragraph [0044]] an explicit performance data, [Reisman, paragraph [0043]] a human-judged performance data” [Reisman, paragraph [0043]].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and

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Szabo) before him/her to combine Reisman with Fish (as modified by Aggarwal and Szabo) because both inventions are directed towards improving returned search results.

Reisman's invention would have been expected to successfully work well with Fish (as modified by Aggarwal and Szabo)'s invention because both inventions use a database for searching and returning results to a user. Fish (as modified by Aggarwal and Szabo) discloses a search enhancement system with information from a selected source comprising improving search results. However, Fish (as modified by Aggarwal and Szabo) does not expressly disclose improving search results by monitoring user activity/interaction. Reisman discloses task/domain segmentation in applying feedback to command control comprising obtaining multiple user interactions/feedback to aid in obtaining improved results.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and Szabo) before him/her to take the user feedback from Reisman and install it into the invention of Fish (as modified by Aggarwal and Szabo), thereby offering the obvious advantage of learning from feedback information to improve returned search results.

Claim 4 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein comparing the normalized performance data to the expected performance data includes determining that the search result is under performing when the normalized performance is below a quantified threshold below the expected performance" [Szabo, cols. 24-25, lines 58-13].

Claim 5 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein the most important source of data is implicit performance data, [Reisman, paragraphs [0037] and [0039]] and normalizing the collected data includes giving implicit performance data greater weight when combining the data" [Aggarwal, col. 5, lines 14-24 with Fish paragraph [0081]].

Claim 6 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein implicit performance data is automatically captured when a user interacts with the search result" [Reisman, paragraph [0049]].

Claim 7 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 6, wherein implicit performance data includes at least one of whether the user clicked on the result, a location of the result when the user clicked the result, and a length of time that the user browsed the result" [Reisman, paragraph [0049]].

Claim 8 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 7, wherein implicit performance data further identifies an operation that the user performed on the result, including at least one of editing, e-mailing, printing, bookmarking, and copying" [Reisman, paragraph [0128]].

Claim 9 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 6, wherein implicit performance data includes captured data that has been aggregated across multiple interactions with the search result" [Reisman, paragraph [0044]].

Claim 10 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 6, wherein implicit performance data includes captured data that has been aggregated across multiple users interacting with the search result" [Reisman, paragraph [0044]].

Claim 11 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein explicit performance data includes data obtained from user response to a search engine operator-generated inquiry about the search result, wherein the inquiry includes one of an on-line inquiry and a telephone inquiry" [Reisman, paragraph [0043]].

Claim 12 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein human-judged performance data includes data obtained from a human evaluation of the search result" [Reisman, paragraph [0043]].

Claim 13 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein relevance verification data includes data obtained from a verification test of the search result's relevance to verify whether a search result having a known relevance is still included in the search result generated by the search engine" [Szabo, col. 25, lines 14-36].

Claim 14 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein sample test data includes data obtained from a test of the search result's relevance performed on a sample of a subset of users" [Fish, paragraphs [0052]-[0055]].

Claim 15 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein diagnosing at least one possible cause for an under performing search result includes considering at least one of whether the search result is no longer valid, whether the search result appears in a poor location, whether a search term that generated the search result is easily misspelled, whether the search term is too broad to generate a meaningful result, and whether a search for the search term should be constrained to a specific resource" [Fish, paragraphs [0077]-[0078] with Szabo, cols. 24-25, lines 58-13].

Claim 16 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein adjusting an operation of a search engine that produced the search result in accordance with the diagnosis to improve the search result performance, includes modifying the search engine's search schema to change the search result generated for the search term, including at least one of reranking, removing, and replacing the search results" [Szabo, cols. 24-25, lines 58-13].

Claim 17 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein adjusting an operation of a search engine that produced the search result in accordance with the diagnosis to improve the search result performance, includes modifying the search engine's search schema to augment a presentation of the search results generated for the search term, including at least one of highlighting, animating, enlarging, and repositioning an

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appearance of the search result on a search results web page" [Reisman, paragraph [0038]].

Claim 18 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein adjusting an operation of a search engine that produced the search result in accordance with the diagnosis to improve the search result performance, includes increasing the search engine's spellchecker tolerance" [Szabo, col. 21, lines 25-40, specifically lines 36-40 with Szabo, cols. 24-25, lines 58-13].

Claim 19 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein adjusting an operation of a search engine that produced the search result in accordance with the diagnosis to improve the search result performance, includes prompting the user to one of clarify or narrow the search term with an additional user input" [Reisman, paragraph [0043]].

Claim 20 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein adjusting an operation of a search engine that produced the search result in accordance with the diagnosis to improve the search result performance, includes temporarily adjusting the operation of the search engine, and determining whether the adjustments have actually improved the search result performance before permanently adjusting the operation of the search engine" [Szabo, cols. 24-25, lines 58-13].

Claim 21 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 2, wherein adjusting an operation of a

search engine that produced the search result in accordance with the diagnosis to improve the search result performance, includes adjusting the operation of the search engine in real time" [Szabo, col. 26, lines 27-36].

Claim 22 can be mapped to Fish (as modified by Aggarwal, Szabo, and Reisman) as follows: "The method of claim 21, wherein adjusting the operation of the search engine in real time includes intercepting the search result generated by the search engine and modifying the search result before the search engine displays the search result to the user" [Szabo, col. 26, lines 27-36].

For **Claim 28**, Fish (as modified by Aggarwal and Szabo) teaches: "The system of claim 27, wherein."

Fish (as modified by Aggarwal and Szabo) discloses the above limitation but does not expressly teach: "...implicit performance data is automatically captured when a user interacts with the search result."

With respect to Claim 28, an analogous art, Reisman, teaches: "...implicit performance data is automatically captured when a user interacts with the search result" [Reisman, paragraph [0049]].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and Szabo) before him/her to combine Reisman with Fish (as modified by Aggarwal and Szabo) because both inventions are directed towards improving returned search results.

Reisman's invention would have been expected to successfully work well with Fish (as modified by Aggarwal and Szabo)'s invention because both inventions use a

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database for searching and returning results to a user. Fish (as modified by Aggarwal and Szabo) discloses a search enhancement system with information from a selected source comprising improving search results. However, Fish (as modified by Aggarwal and Szabo) does not expressly disclose improving search results by monitoring user activity/interaction. Reisman discloses task/domain segmentation in applying feedback to command control comprising obtaining multiple user interactions/feedback to aid in obtaining improved results.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and Szabo) before him/her to take the user feedback from Reisman and install it into the invention of Fish (as modified by Aggarwal and Szabo), thereby offering the obvious advantage of learning from feedback information to improve returned search results.

Claims 29-37's limitation(s) have already been met by Claims 7-15's limitation(s), respectfully. Therefore, Claims 29-37 are rejected for the same reason(s) as stated above with respect to Claims 7-15, respectfully.

For **Claim 39**, Fish (as modified by Aggarwal and Szabo) teaches: "The system of claim 23, wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data."

Fish (as modified by Aggarwal and Szabo) discloses the above limitation but does not expressly teach: "...that represents an action to modify the search engine's search schema, wherein the modified search schema augments the way the search

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engine presents the search result for a search term, including at least one of highlighting, animating, enlarging, and repositioning an appearance of the search result on a search result Web page."

With respect to Claim 39, an analogous art, Reisman, teaches: "...that represents an action to modify the search engine's search schema, wherein the modified search schema augments the way the search engine presents the search result for a search term, including at least one of highlighting, animating, enlarging, and repositioning an appearance of the search result on a search result Web page" [Reisman, paragraph [0038]].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and Szabo) before him/her to combine Reisman with Fish (as modified by Aggarwal and Szabo) because both inventions are directed towards improving returned search results.

Reisman's invention would have been expected to successfully work well with Fish (as modified by Aggarwal and Szabo)'s invention because both inventions use a database for searching and returning results to a user. Fish (as modified by Aggarwal and Szabo) discloses a search enhancement system with information from a selected source comprising improving search results. However, Fish (as modified by Aggarwal and Szabo) does not expressly disclose repositioning an appearance of the search result on a search result Web page. Reisman discloses task/domain segmentation in applying feedback to command control comprising repositioning an appearance of the search result on a search result Web page.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and Szabo) before him/her to take the repositioning an appearance of the search result on a search result Web page from Reisman and install it into the invention of Fish (as modified by Aggarwal and Szabo), thereby offering the obvious advantage of learning from feedback information to improve returned search results, specifically, improving search results by showing popular search results more prominently.

For **Claim 41**, Fish (as modified by Aggarwal and Szabo) teaches: "The system of claim 23, wherein the adjustment process to generate an output data representing an action to automatically adjust an operation of the search engine, includes generating output data."

Fish (as modified by Aggarwal and Szabo) discloses the above limitation but does not expressly teach: "...that represents an action to prompt the user to one of clarify or narrow the search term with an additional user input."

With respect to Claim 41, an analogous art, Fish (as modified by Aggarwal and Szabo), teaches: "...that represents an action to prompt the user to one of clarify or narrow the search term with an additional user input" [Reisman, paragraph [0043]].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and Szabo) before him/her to combine Reisman with Fish (as modified by Aggarwal and Szabo) because both inventions are directed towards improving returned search results.

Reisman's invention would have been expected to successfully work well with Fish (as modified by Aggarwal and Szabo)'s invention because both inventions use a database for searching and returning results to a user. Fish (as modified by Aggarwal and Szabo) discloses a search enhancement system with information from a selected source comprising improving search results. However, Fish (as modified by Aggarwal and Szabo) does not expressly disclose an action to prompt the user to one of clarify or narrow the search term with an additional user input. Reisman discloses task/domain segmentation in applying feedback to command control comprising an action to prompt the user to one of clarify or narrow the search term with an additional user input.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reisman and Fish (as modified by Aggarwal and Szabo) before him/her to take the action to prompt the user to one of clarify or narrow the search term with an additional user input from Reisman and install it into the invention of Fish (as modified by Aggarwal and Szabo), thereby offering the obvious advantage of learning from feedback information to improve returned search results, specifically, improving search results by further specifying the search.

Claims 46 and 49-58's limitation(s) have already been met by Claims 2 and 5-14's limitation(s), respectfully. Therefore, Claims 46 and 49-58 are rejected for the same reason(s) as stated with respect to Claims 2 and 5-14, respectfully.

Claims 61 and 63's limitation(s) have already been met by Claims 17 and 19's limitation(s), respectfully. Therefore, Claims 61 and 63 are rejected for the same reason(s) as stated with respect to Claims 17 and 19, respectfully.

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Specifically, since the applicant amended Claim 45 to be substantially the same as Claims 1, some of Claim 45 and it's claim tree have changed to rejections based on Claim 1 and it's claim tree.

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Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is advised that, although not used in the rejections above, prior art cited on the PTO-892 form and not relied upon is considered materially relevant to the applicant's claimed invention and/or portions of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu M. Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brent Stace. *B.S.*

[Signature]
APU MOFIZ
SUPERVISORY PATENT EXAMINER

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